



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/628,257      | 07/29/2003  | Chi-Hsu Lin          | BHT-3183-51         | 5440             |

7590 07/27/2005  
TROXELL LAW OFFICE PLLC  
SUITE 1404  
5205 LEESBURG PIKE  
FALLS CHURCH, VA 22041

| EXAMINER |
|----------|
|----------|

SAYOC, EMMANUEL

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

3746

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/628,257

Applicant(s)

LIN, CHI-HSU

Examiner

Emmanuel Sayoc

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The title should refer to at least the principle inventive concept of the claimed invention. "An Oil Lubricant Retaining Bearing Structure for a Fan" is recommended.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1 and 2 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the fan shaft" in line 2. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 3746

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Li (U.S. 6,848,830 B1).

In Figure 1, Li teaches a fan oil-retaining structure comprising an oily bearing (130) set in a fan housing (111), the oily bearing (130) has a central axis hole (131) for pivoting a fan shaft (121), an oil-collecting recess trench (134) being formed on the central axis hole (131) of the oily bearing (130), and an acute angle oil-guiding ring edge (see acute angle edged grooves forming trench 134) at one side of the oil-collecting recess trench (134). The fan shaft (121) rotatably touches the acute angle oil-guiding ring edge. An internal-recycle oil-retaining system is constructed by means of the oil-collecting recess trench (134) and the oil-guiding ring edge (see acute angle edged grooves forming trench 134) when the fan shaft rotates.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto (U.S. 6,196,802 B1), and Saneshige et al. (U.S. 5,145,266).

In Figure 1, Matsumoto teaches a fan with a housing (1), a bearing retainer (5), and an upper and lower bearing (6, 7).

The Matsumoto device differs from the claimed invention in that the bearing is not taught of having an oil-collecting recess trench and an acute angle oil-guiding ring edge formed in the bearing central axis hole.

In Figure 1, Saneshige et al. teaches an oil-retaining structure, usable with the fan, comprising a bearing (12, 22), lubricated with oil (column 3 line 45-50). The bearing (12, 22) has a central axis hole (formed by walls 12a, 22a) for pivoting a shaft (1). An oil-collecting recess trench (chamber between inner walls 12a, 22a and the shaft 1 wall) is formed on the central axis hole (formed by walls 12a, 22a) of the bearing (12, 22). As seen in Figure 1, a chamber is formed at the connection with the upper bearing (12) and the lower bearing (22) with an

Art Unit: 3746

acute angle oil-guiding ring edge (see acute angle edged grooves) at one side of the oil-collecting recess trench (between inner walls 12a, 22a and the shaft 1 wall, top or bottom). The fan shaft (1) rotatably touches the acute angle oil-guiding ring edge. An internal-recycle oil-retaining system (see Abstract, oil is retained and recycled) is constructed by means of the oil-collecting recess trench (chamber between inner walls 12a, 22a and the shaft 1 wall) and the oil-guiding ring edge when the shaft (1) rotates. Since the bearing is a lubricant closed system, it is clear that the lubricant is recycled in the oil trench. In the Abstract it is stated that the bearing prevents the leakage of lubricating oil thus extending the life of the bearing. Therefore it would have been obvious to one of ordinary skill in the art at time the invention was made to modify the Matsumoto device by, incorporating the oil retaining and recycling bearing, as taught by Saneshige et al., in order to advantageously prevent the leakage of lubricating oil thus extending the life of the bearing.

In the combination it is clear that the Saneshige et al. bearing would be set within the fan housing (Matsumoto 1) in the bearing holder (Matsumoto 5).

The Saneshige et al. bearing is composed of an upper bearing (12) and a lower bearing (22).

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are cited to further show the state of the art with respect to oil lubricated bearings.

Art Unit: 3746

U.S. Pat. 6,890,104 B2 to Gomyo et al., 4,472,004 to Fingerle et al., and 5,441,386 to Hsieh – teach a hydrodynamic bearing with an oil recess similar to that of the claimed invention.

U.S. Pat. 6,024,496 to Shy – teach a bearing with a recess similar to that of the claimed invention.

***Contact Information***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Sayoc whose telephone number is (571) 272 4832. The examiner can normally be reached on M-F 8-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy S. Thorpe can be reached on (571) 272-4444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Emmanuel Sayoc  
Examiner  
Art Unit 3746

ECS